

Public-Private Partnership (PPP) Toll Roads for California
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My name is Robert Poole. I am the Director of Transportation Policy at the Reason Foundation, a nonprofit public policy think tank headquartered in Los Angeles. I appreciate the opportunity to speak with you today about the role that public-private partnerships (PPPs) can play in addressing California's enormous transportation infrastructure needs.

My testimony is divided into five parts. First, I will summarize the history of California's AB 680, the nation's first enabling legislation for PPP toll roads. Next, I will draw some lessons learned from that experience. Third, I will offer a brief overview of the state of play with respect to PPP toll roads in other states. After that I will suggest some of the potential PPP toll projects that would help address California's medium-term infrastructure needs. Finally, I will say a few words about the new enabling legislation signed by the Governor last month, SB 4.

California's Pilot Program for PPP Toll Roads: AB 680

I had the good fortune to be present at the creation of the 1989 legislation that permitted Caltrans to experiment with PPP toll roads. In 1988 I researched and wrote a Reason Foundation policy paper called "Private Tollways: Resolving Gridlock in Southern California," (www.reason.org/ps111.pdf). I suggested that California could provide relief for drivers on congestion-choked freeways by combining three ingredients: variable pricing, electronic toll collection, and European-type long-term franchises (now called "concessions"). The result would be express toll lanes, added to congested freeways by private companies that would finance, build, and operate them for a period of several decades.

Initially, the paper attracted little notice. But in June 1988, voters defeated Gov. Deukmejian's highway bond proposal, which had been considered the best hope for closing a highway funding gap estimated by the Little Hoover Commission to be as much as \$1.8 billion per year through the end of the century. So I wrote an op-ed piece for the *Los Angeles Times*, suggesting the PPP toll-lanes alternative, based on my policy paper. The piece appeared on July 7, 1988. Within days, we filled requests for copies of the paper from both Caltrans and the Governor's office. Subsequent discussions led to Reason Foundation helping Caltrans to arrange a half-day workshop on the issue. So on August 5, 1988, 25 people assembled in a conference room in Pasadena for the workshop on "Private Sector & Urban Congestion." Besides Caltrans and the Governor's office, participants included infrastructure specialists from a number of engineering and public works firms, including one from Europe.

The end result was that Caltrans drafted legislation that would authorize four private toll projects, at least one of which would be in northern California, on the long-term

concession model, with each concession period limited to 35 years. The intent was to accomplish the following:

- Take advantage of private-sector efficiencies in designing and building transportation projects;
- Allow for the rapid formation of capital needed for such projects;
- Bring about faster reductions in congestion in existing corridors;
- Require the same environmental requirements and state/federal laws as apply to public-sector projects;
- Offer the public alternatives to existing travel choices.

Assemblyman Bill Baker agreed to sponsor the legislation, but getting it enacted was a challenge. In 1989, when AB 680 was ready, the Legislature was faced with a number of transportation bills, including one that called for phasing in an increase in the state gasoline tax. In general, Republican members were opposed to the gas-tax increase while favoring AB 680, while most Democrats were of the opposite view. In the end, a compromise was worked out to support both, with subsequent voter approval required (and achieved) for the gas-tax increase. The package passed on June 30, 1989.

Since AB 680 was classed as an urgency measure, it took effect immediately. Caltrans created a privatization unit and a Privatization Advisory Steering Committee to oversee the development of a competitive process to seek proposals from the private sector. I served on that committee. We decided to announce the program to the world, but with a two-step process, following global best-practices for such projects. First, Caltrans invited interested firms to submit their qualifications, to limit the number of potential bidders to a manageable number with experience in finance, design, construction, and operation of toll roads. Next, after the list of 10 pre-qualified consortia was created, Caltrans issued an open-ended request for proposals (RFP). Essentially, we said to the private sector: here is all the data on transportation conditions around the state, and our existing plans to do what we can with public monies. You tell us what projects you think would make sense for you to do as private toll projects, financed by you based on their projected toll revenues.

Many were skeptical, despite the strong interest by firms in the pre-qualification stage. In the end, Caltrans in mid-1990 received eight proposals for the four available project slots. Using published criteria developed by our Steering Committee, a Caltrans selection committee picked the highest-ranked four projects: a new toll road in the East Bay, another new toll road in San Diego County, an extension of the SR 57 freeway in Orange County as a toll road, and express toll lanes on SR 91 in Orange County. The total estimated cost of the four was \$2.5 billion (in 1990 dollars).

After the concession agreements were negotiated and signed in 1991, the winning teams then had to pursue the required environmental and other permits, as well as gaining the support of local stakeholders. That turned out to be easy for the 91 Express Lanes in Orange County, which opened to traffic in December 1995. In the East Bay, NIMBY and environmental opposition killed the proposed Mid-State Toll Road, and similar factors (plus revised cost and revenue estimates) killed the proposed extension of SR 57. In San

Diego, it took more than a decade of environmental studies and litigation before a federal record of decision was granted, permitting construction of the SR 125 South Bay Expressway. That long-delayed project finally opened to traffic in November 2007.

The 91 Express Lanes project is considered by transportation people as a major success, but is often considered a political failure in California. On the positive side, it added 40 lane-miles of much-needed new capacity to a very congested corridor. It was the world's first toll road with no toll booths and entirely electronic toll collection. And it proved that variable tolling (which the company dubbed "value pricing") is a powerful tool for congestion control. The project is now known all over the world for demonstrating that variable pricing permits 50% greater traffic flow during peak periods than the stop-and-go conditions on regular freeway lanes.

91 Express was generally well received during its first four years. The new lanes expanded the freeway by one-third, so there was reduced congestion in the existing lanes for those not choosing to pay the toll to use the new ones. But high coastal housing prices kept pushing more and more of those who worked in Orange County to buy homes in Riverside County—which meant they added to those using SR 91. By 2000, congestion had again reached serious proportions on the free lanes. When Caltrans attempted to add free lanes, the company protested, pointing to the non-compete clause in the concession agreement and threatening litigation. When Caltrans conceded, the political attacks on the company became intense (in the form of "profits vs. the public interest"). Ultimately, that opposition led to legislation permitting the Orange County Transportation Authority to buy out the remainder of the company's 35-year concession at the end of 2002. Since then, the 91 Express Lanes have been operated in exactly the same manner as before, but by OCTA. Now, however, added lane-capacity projects are moving forward.

The South Bay Expressway (SBE) has been in operation less than a year and a half, as this is being written. Despite the enormous difficulties encountered in gaining approvals to build the toll road (which would likely have been the same regardless of the private sector's involvement), it appears to have strong public support as a much-needed addition to the region's transportation infrastructure. The concession company had difficulties with its design-build contractor, which are still being hashed out, but those problems are internal to the company and do not pose any risks to motorists or taxpayers. By an accident of timing, SBE opened to traffic just as the real estate bubble began to burst, resulting in much slower growth in eastern San Diego County than had been anticipated. That has led to traffic numbers (and hence toll revenues) below initial projections. This is not an unusual situation for start-up toll roads, which are considered relatively high-risk ventures, especially if developed on a stand-alone basis (as opposed to being an addition to an existing toll road system). Again, the risks involved have been assumed by the company and its investors, not by the taxpayers.

Lessons Learned from the AB 680 Pilot Program

Despite only two of the four selected projects being built, it is possible to draw a number of lessons from the AB 680 experience. In terms of the original goals set forth in the

legislation (and noted previously), we can see that for the projects that gained enough public support to get built, private capital was available and the projects got built using the design-build method. Thanks to the ability to raise the construction funds up-front, these two projects were built a decade or two sooner than would otherwise have been possible using traditional gas-tax funding. The projects are complying with all federal and state regulations, environmental and otherwise. And they have definitely given motorists new alternatives in the Riverside/Orange County and San Diego County regions.

Two other important advantages of the toll concession model, not mentioned in AB 680, are *life-cycle costing* and *risk transfer*. On the first of these, unlike conventional highway projects where even a design-build firm has incentives only to build the project on time and on budget, in the PPP concession model, the toll road company has the additional incentive of designing the project so as to minimize its life-cycle cost (since it has the responsibility to maintain it for the full term of the concession agreement, 35 years in these cases). That may well mean selecting a more durable pavement design at higher initial cost, if that means lower maintenance costs over time. And in PPP concessions like the two AB 680 examples, important risks which exist in any large highway or toll road project are shifted from the public sector to the private sector. The most important of these are the risks of cost overruns and delays in completion and the risk of insufficient traffic and revenue. As noted previously, the South Bay Expressway is coping with cost overruns on its design-build contract, and may have to cope with the consequences of early-years' traffic and revenue below the projections on which its financing was based. But those risks are being borne by the company and its investors, not motorists or taxpayers.

Several PPP toll roads have had financial difficulties in their early years, due to traffic and revenue being below projections. Virginia's first such project, the Dulles Greenway, opened in the midst of a real-estate recession, and was unable to meet its debt-service obligations in its early years. The equity investors lost most of their investment, and the debt providers had to restructure the debt, but at no time were motorists or taxpayers at risk. The subsequent real estate boom in the Dulles to Leesburg corridor produced robust traffic growth, to the point where the entire toll road has been widened from two lanes to three in each direction. In two more serious cases—the Camino Columbia toll road in Texas and the Cross-City Tunnel in Sydney, Australia—traffic was so far below projections that those toll roads went into receivership. They continued in operation under new owners, with restructured finances. Again, taxpayers and motorists were not put at risk.

On the other hand, the transportation community also learned some “what not to do” lessons from the AB 680 experience. The most important is the issue of *non-compete clauses*. People tend to forget (or never knew) that non-compete provisions are not something unique to PPP toll roads. It is often difficult to finance any new toll road, public or private, if the state has unlimited ability to add competing free roads close by. This was especially seen to be a problem with the 91 Express Lanes, which was the first toll road ever built literally a few feet from the competing free road. Those involved in

providing the financing for the Express Lanes believed that a strong non-compete provision was essential to being able to sell the toll revenue bonds. And the prevailing view at the time was that “We can’t build our way out of congestion,” meaning that the Express Lanes were seen as very likely the last addition of capacity in the SR 91 corridor. Thus, Caltrans officials believed they were not giving up anything meaningful by agreeing not to add more free lanes to SR 91.

Nevertheless, the story of the 91 Express Lanes non-compete clause is now known nationwide, and is debated whenever a state considers PPP toll road enabling legislation. What has evolved in the years since then is a more nuanced approach. Second-generation competition provisions no longer prohibit any nearby free roads, and they explicitly exempt projects in approved long-range transportation plans. For any other future project, the PPP toll company must demonstrate and quantify the resulting loss of traffic and revenue and can seek compensation, sometimes within limits. The intent of such provisions is to strike a balance between reasonable protection for investors and the need for adequate infrastructure in the future, many decades hence.

A second lesson learned concerns the composition of *funding*. AB 680 tested a model in which 100% of the funding for a toll road must be private. Given the high costs of construction and environmental mitigation, that requirement severely limits the number of projects that will “pencil out” as fully self-supporting from tolls. What most other states with workable PPP legislation have concluded is that it makes sense to permit mixed funding, under which the majority of a project is toll-supported but the state makes up the balance. From the state’s standpoint, this leverages the state’s transportation funding. Instead of putting, say, \$500 million of state funds into a single large project, the state might put \$100 million apiece into five \$500 million projects, as a 20% share. This can be done either as the equivalent of a down payment (which Texas calls a “toll equity” contribution to the project) or by having the state build and pay for various connectors between the project and other state highways, representing its portion of the total project cost (as Virginia is doing on the \$1.8 billion HOT lanes project on the Capitol Beltway, I-495).

A third lesson is that the PPP toll road is a powerful and valuable tool that should not be limited to just the state department of transportation. AB 680 permitted only Caltrans to experiment with PPP toll roads. Broader enabling legislation in states like Florida, Texas, and Virginia makes this tool available to any level of government that has roadway responsibilities, including local toll agencies, counties, cities, and joint powers authorities created to do specific projects.

PPP Toll Roads in Other States Today

Nearly two-dozen states have some form of transportation PPP law on their books, but only a handful have projects in being or under way. That’s because many of the laws are either pilot programs (sometimes limited to a single project, or to non-highway projects) or contain unworkable provisions (such as the requirement that the legislature vote to

approve or deny a concession agreement that may have taken a year and millions of dollars to negotiate).

Of PPP toll projects that are currently in operation, four were existing public-sector toll roads that have been leased long-term to private toll concession companies: the Chicago Skyway (IL), the Indiana Toll Road (IN), the Pocahontas Parkway (VA), and the Northwest Parkway (CO). The other two are the Dulles Greenway (VA) and the South Bay Expressway (CA), both of which date from pilot legislation in the 1990s.

In the last year, four PPP toll projects have been financed and are now under development. They are the Beltway HOT Lanes on I-495 in Virginia (\$1.8 billion), SH 130 Segments 5 & 6 between Austin and San Antonio, Texas (\$1.3 billion), the replacement Jordan Bridge in Chesapeake, Virginia (\$100 million), and the reconstruction and expansion of I-595 with express toll lanes in Florida (\$1.2 billion). It's important to note that these projects have been financed despite the global credit markets crisis.

At least four other major PPP concession projects have reached the stage where a winning consortium has been selected and the long-term agreement is now being negotiated. One of these projects is in Florida, two are in Texas, and one is in Virginia. In Florida, the \$1 billion Miami Port Tunnel will provide a direct connection between the city's island-based port and its expressway system, keeping numerous heavy trucks off the streets of downtown Miami. In Texas, the North Tarrant Express will add managed toll lanes to several freeways in Fort Worth, at a cost of \$1.6 billion. And in nearby Dallas, a separate toll concession project will rebuild the I-635 LBJ Freeway, adding managed toll lanes, at a cost of \$2.7 billion. In Virginia, a PPP consortium will add HOT lanes to I-95 and I-395 approaching Washington, DC, at a cost well in excess of \$1 billion.

Numerous other projects are in some stages of the procurement process (from feasibility studies to competitive procurements) in nearly a dozen states, including Alabama, Florida, Georgia, Mississippi, New York, North Carolina, Pennsylvania, Texas, and Virginia. And PPP enabling legislation is being debated in Arizona, Nevada, Pennsylvania, and several other states.

Given the global credit crunch, many people wonder if PPP toll projects will be able to be financed in the next few years. The good news on this score is that global infrastructure investment funds have amassed \$180 billion in the past three years—and their growth continued in 2008, according to a survey by San Francisco-based Probitas Partners. These funds seek to make *equity investments* in projects such as long-term toll-concession roadways. Equity typically makes up 20-35% of the funding package, with the balance being some combination of debt instruments—toll revenue bonds, intermediate-term bank loans, and federal TIFIA loans. If we assume equity at 33%, then \$180 billion could support \$545 billion worth of projects. To be sure, not all of that money would be allocated to U.S. infrastructure, and not all to toll roads, but that is some indication that large amounts of capital are ready and waiting for good projects.

Among the institutional investors that have recently become interested in infrastructure are pension funds, both private and public. Public-sector pension funds, such as CalPERS, do not invest in public-sector toll roads. They don't invest equity, because an outside party cannot invest equity in such toll roads, which are funded 100% by debt. And they don't buy such toll roads' tax-exempt bonds because the tax-exemption is of no value to a pension fund that does not pay taxes, and could earn higher interest on comparable taxable bonds. Canadian and Australian pension funds have been investing in infrastructure for more than a decade, and I'm encouraged that CalPERS last year decided to do likewise.

Potential PPP Toll Projects in California

Several years ago the Reason Foundation carried out a year-long project to explore what specific kinds of toll projects could make a significant dent in California's massive urban traffic congestion. That report, "Building for the Future: Easing California's Transportation Crisis with Tolls and Public-Private Partnerships" (www.reason.org/ps324.pdf) proposed four major projects costing a total of \$30.8 billion (in 2004 dollars). They were a toll tunnel between Glendale and Palmdale, a network of HOT lanes for San Diego, a toll truck lanes system linking the ports of Los Angeles and Long Beach with the Inland Empire, and a toll truck lanes system linking the Port of Oakland and Silicon Valley with I-5.

Other Reason policy studies have added to that list. Because construction costs have increased since 2004, the list below is presented without price tags, but each is a multi-billion dollar mega-project:

- HOT lanes network for the San Francisco Bay Area
- Tolled truck lanes from Oakland and Silicon Valley to I-5
- Tolled truck lanes on I-5 from Santa Clarita to I-80
- Tolled truck lanes on I-15 from Barstow to Nevada line
- HOT lanes network for greater Los Angeles (Los Angeles, Orange, San Bernardino, and Riverside Counties)
- I-710 gap closure tunnel beneath South Pasadena
- Glendale-Palmdale tunnel (extension of SR 2)
- Riverside-Orange County tunnel from I-15 to SR 241
- Tolled truck lanes from Ports of Los Angeles and Long Beach to Inland Empire and Barstow
- HOT lanes network for San Diego County.

Our initial estimates were that many of these projects would be self-supporting from toll revenues. The tunnel projects are the ones most likely to require some degree of state funding, in addition to what can be financed based on toll revenues.

Projects such as these are scarcely conceivable within the constraints of current and projected transportation revenues (mostly federal and state fuel taxes plus local transportation sales taxes). For this reason, existing long-range transportation plans in

California's urban areas project that congestion in 2030 will be worse than the already very high levels we experience today. But this result is not some fact of nature, like earthquakes and winter storms that we can do little or nothing about. The fact that traffic congestion in the state's four largest urban areas costs motorists \$16 billion per year in wasted time and fuel suggests that many motorists (and truckers) would be willing to pay some fraction of that in annual tolls to escape congestion. If toll projects could generate, say, \$8 billion per year, that toll revenue might support capital costs of \$80 billion, which could pay for quite a few of the projects on the above list.

One other factor to keep in mind is California's competitiveness. Other large, fast-growing states—Florida, Texas, Virginia today and possibly next year Arizona, Nevada, Utah, and others—are tackling their urban congestion problems with toll-concession mega-projects. If their metro areas become less congested and more livable as a result, California risks falling further behind as a desirable place to live, work, and build businesses.

California's New PPP Toll Enabling Legislation: A Brief Assessment

On Feb. 20, 2009 the Governor signed SB 4, which among other things, revises the flawed (and hence never used) PPP legislation from 2006 (AB 1467). The net result is what appears to be a workable enabling act for PPP toll projects in California. Among the positive features of this new legislation are the following.

- It permits PPP toll projects to be initiated by all levels of government in California, including, including local governments, transportation commissions, and joint powers authorities.
- There is no limit on the number of projects, which makes it general enabling legislation, rather than pilot project legislation.
- It removes the requirement that the legislature to approve or reject long-term concession agreements after they have been negotiated. Approval rights rest with the California Transportation Commission.
- It allows unsolicited as well as solicited proposals, which is important in order to tap outside-the-box thinking. But it correctly requires competition for both types of proposals.
- It permits tolls to be charged to all types of vehicles (as opposed to trucks only, as per AB 1467).
- It allows design-build to be used for PPP toll projects (which experience shows is essentially required, in order to give investors confidence that the project will be completed on time and within budget).
- It allows for best-value selection, as was done for AB 680 and is the practice in other states with successful PPP toll laws.
- It exempts PPP toll projects from local property taxes; levying such taxes would increase operating costs, thereby making few projects "pencil out."
- It allows for tolls to be charged on new capacity only (except for conversion of HOV lanes to HOT lanes), thereby avoiding "double taxation" concerns of highway user groups.

Is this an ideal PPP toll roads enabling act? Not quite, in my assessment. Several provisions are somewhat problematic. For one thing, the bill permits projects only until 2014, a five-year time span. In that sense, this is still something of a pilot program, testing whether the private sector will respond to this far more workable piece of legislation. But since it can take five to 10 years to get a major toll road project from feasibility study to the start of construction, there may not be any projects under construction yet by 2014, let alone in operation. That's an unrealistically short period of time to assess the outcomes of such a far-reaching piece of legislation.

Another problem is the wording on toll rates. Almost identical to that in AB 1467, it provides that "Lease agreements shall establish specific toll or user fee rates. Any proposed increase in those rates not otherwise established or identified in the lease agreement during the term of the agreement shall first be approved by the department [Caltrans] or regional transportation agency, as appropriate, after at least one public hearing conducted at a location near the proposed or existing facility." As I read this, it would appear to permit a starting-date toll rate (for each category of vehicles) and a schedule of rate increases, either spelled out specifically or via an inflation index, over the life of the agreement. That would be acceptable for a traditional inter-city toll road such as the Pennsylvania Turnpike. But it is unworkable for a value-priced congestion-relief toll project, such as the 91 Express Lanes, proposed urban tunnels, and proposed networks of HOT lanes. Toll rates in those settings must be variable and able to be adjusted as needed to maintain a desired traffic flow level (such as Level of Service C). Unless the SB 4 wording can be interpreted to mean a formula or algorithm of this sort (as used today on the I-15 HOT lanes in San Diego and on the 91 Express Lanes in Orange County), this provision will prove unworkable for congestion-relief urban projects. And such projects are precisely the ones most in need of PPP investment.

One further problem concerns the wording of the compensation provision. In the event that a competing transportation project (beyond those specifically excluded) draws traffic and revenue away from the PPP toll project, the company is entitled to compensation, but that compensation is severely limited. It may not exceed "the difference between the reduction in revenues and the amount needed to cover the costs of debt service." So let's suppose a PPP toll road was generating \$275 million a year in toll revenue. A competing project opens up, and it diverts \$40 million a year in revenue away from the private project. Let's further suppose the toll project has \$250 million a year in debt service to cover out of toll revenues. Prior to the competing project, the toll road was covering its debt service with \$25 million a year left for operations, maintenance, and possibly a small profit. After the competing project opens, the toll road is \$15 million per year short of the amount needed to cover all of its debt service. According to SB 4, the compensation in this case would presumably be the difference between \$40 million (the diverted revenue) and the amount needed to get back to covering its debt service (\$15 million)—or just \$25 million. With its revenue reduced to \$260 million (\$235 + \$25), the company may have trouble covering its operations and maintenance costs, let alone having any return to equity providers. One toll road finance company official told this author that this is "possibly a risk some would be willing to take, but not all. It would pour cold water on

interest [in investing in California projects] if the private sector gets all the downside with no upside.”

Thus, while SB 4 is a major step in the right direction, it has several troubling flaws. It would be wise to correct these flaws via a “trailer” bill prior to issuing any RFPs, especially for large urban congestion-relief projects.

That concludes my testimony. I would be happy to address any questions you may have.